

REMARKS

Claims 1, 2, 4-8, 10, and 13-19 are now pending in the application. Claims 3 and 9 are cancelled. Claims 11 and 12 remain withdrawn. Rejoinder of claim 20 in view of the amendments presented herein is respectfully requested. The Examiner is respectfully requested to reconsider and withdraw the rejection(s) in view of the amendments and remarks contained herein.

Specification

The specification stands objected to for certain informalities. Applicant(s) have amended the specification according to the Examiner's suggestions. Therefore, reconsideration and withdrawal of this objection are respectfully requested.

Rejection Under 35 U.S.C. § 112

Claims 9 and 10 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicant regards as the invention. This rejection is respectfully traversed.

Claim 9 has been cancelled with the limitations of claim 9 incorporated into independent claim 1. Claim 10 has been amended to depend from claim 1.

By the cancellation of claim 9 and the amendment to claim 10, this rejection has been rendered moot.

Rejections Under 35 U.S.C. § 102 and/or 35 U.S.C. § 103

Claims 1, 5, 9, 13, 14, 16-18 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Soane et al (U.S. Pat. No. US 2003/0013369). Claims 2-8, 15 and 19 stand rejected under 35 USC 103(a) as being unpatentable over Soane et al as applied to claim

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In this regard, the Examiner notes that Soane et al discloses a textile treatment

agent that includes inorganic nanoparticles that are surface modified and various ingredients such as surfactants and fragrances. The Examiner further notes that Soane discloses the features of various textiles such as cotton, wool, silk and synthetic fibers, a concentration of nanoparticles of 0.1 to 95%, cationic nanoparticles and a diameter range of about 1-1000 nm. The Examiner contends that the inorganic surface modification is also met by the teaching of the silica or silane coated inorganic nanoparticles.

As for the rejections under 35 USC §103(a), Soane is said to disclose the composition of Applicants claim 1, but fails to specifically disclose a composition comprising the agents, thickness and the diameter ranges in the amounts as those recited by the Applicant. Further, regarding thickness, Soane is said to disclose nanoparticles being in the same range as Applicants to coat the textile thus, the Examiner contends that it would be obvious that the thickness ranges would fall within the same range. The foregoing rejections are respectfully traversed.

Applicants submit that Soane et al differs from the present invention in that the nano particles disclosed therein are not suited to form an inorganic structure on the textiles, since the nano particles disclosed in Soane are always encapsulated in polymer shells with a diameter of 1 to 5 μm . Since Soane fails to teach or disclose the present invention, reconsideration of the rejections is respectfully requested.

Claims 1, 9, 16-18 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Zuechner et al (WO 01/83662) Zuechner is said to disclose a finishing textile agent that includes inorganic nanoparticles such as silica that are surface modified by various chemicals and additional ingredients such as surfactant, thickeners and perfumes. The Examiner further states that Zuechner discloses the features of various textiles such as cotton, a concentration/content of nanoscale particles of 0.01 to 35% by wt and a particle size of 5 to 500 nm. Thus, the Examiner contends, Zuechner anticipates the material limitations of Applicants listed claims.

As for the rejections under 35 USC §103(a), Zuechner is said to disclose the

composition of Applicants claim 1, but fails to specifically disclose a composition comprising the agents, thickness and the diameter ranges in the amounts as those recited by the Applicant. Further, regarding thickness, Zuechner is said to disclose nanoscale particles being in the same range as Applicants to coat the textile thus, the Examiner contends, it would be obvious that the thickness ranges would fall within the same range. The above-noted rejections are respectfully traversed.

Applicants submit that Zuechner discloses coating on nano particles made of phosphonates and carbonic acids. Zuechner does not disclose the particular surface modifications of oxides, hydroxides, salts and combinations thereof as required by amended claim 1 (and previous claim 9). Further, there is no motivation to utilize such compounds where Zuechner specifically teaches phosphonates and carbonic acids. As such, Applicants submit that the prior art has been overcome and respectfully requests that the rejection of claims 1, 9, 16-18 be withdrawn.

Claims 1, 9, 13-15 and 18 stand rejected under 35 U.S.C. § 102(e) as being anticipated by or, in the alternative, under 35 USC 103(a) as being obvious over Rohrbaugh et al (US 2001/0151634). Claims 2-8, 10, 16, 17 and 19 stand rejected under 35 USC 103(a) as being unpatentable over Rohrbaugh et al as applied to claim 1.

Rohrbaugh is said to disclose a coating composition that includes inorganic nanoparticles such as oxides and silicates that are surface modified by various chemicals and additional ingredients such as surfactant, softeners and perfumes. In addition, Rohrbaugh is said to disclose the features of various textiles such as cotton and synthetic fibers, a concentration/content of nanoscale particles of 1 to 100% by wt and 0.01 to 5% of the coating composition, a particle size of 2 to 750nm and a cationic particle charged via an Al^{+3} salt.

The Examiner further contends that in the alternative that the above disclosure is insufficient to anticipate the above listed claims such as selection of a specific ingredient, it would have been obvious to the skilled artisan to achieve the composition, as the reference teaches each of the claimed ingredients within the claimed proportions for the same utility and such modifications are recognized as being well within the purview of the skilled artisan to yield predictable results. The foregoing rejections under Rohrbaugh are traversed.

Applicants submit that Rohrbaugh et al differs from the present invention in that Rohrbaugh discloses only silica nano particles coated with molecules exhibiting properties selected from the group consisting of hydrophilic, hydrophobic and mixtures thereof (see also ¶ 0045). Since Rohrbaugh fails to disclose the particular surface modifications as now required by Applicants in amended claim 1, the rejection under 35 USC §102(e) is believed to be moot. Further, Rohrbaugh fails to teach the specifically claimed ingredients contrary to the Examiner's assertion.

Claims 7-10 stand rejected under 35 USC 103(a) as being unpatentable over Soane et al or Zuechner et al as applied to the claims above, and further in view of Hamers et al (US 2004/0025262).

Applicants submit that Hamers et al cannot be properly combined with Soane or Zuechner since Hamers is completely unsuitable to provide an inorganic nano particulate structure on a textile surface. Hamers only teaches polymeric particles that may be modified with metal ions on their surface. To facilitate the modification with metal ions on polymeric particles $AlCl_3$ may be used in Hamers. The aim of Hamers is to incorporate aluminum atoms on the surface of the polymeric particles.

In contrast thereto, Applicants invention may use polymeric aluminum chloride or aluminum oxide chloride to coat the surface of inorganic nano particles. Therefore, the coating will comprise chloride atoms.

The resulting nano particles in Hamers are only coated with metal atoms, i.e., in the

form of aluminum ions. On the other hand, the surface of the nano particles according to Applicants invention is coated with oxides, hydroxides or salts or combinations thereof.

Therefore, starting from any of the cited references, the skilled person will not find the teachings of the present invention in particular to coat the surface of nano particles with oxides, hydroxides, salts and combinations thereof. Reconsideration of this rejection is respectfully requested.

Conclusion

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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